

Internet-based programs to support tobacco cessation: A systematic review and meta-analyses of randomised controlled trials

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Introduction

- The World Health Organization estimates that tobacco use kills **over eight million** people annually.¹
- Behavioural counselling and pharmacotherapies have shown greatest efficacy in achieving cessation, although **uptake remains low** in most populations.^{2,3}
- In 2022, **66%** of the global population used the internet.⁴
- Internet-based programs may offer a **widely-accessible** and **cost-effective** platform for delivering cessation support to people attempting to quit.

This review synthesised and analysed the effectiveness of internet-based tobacco cessation programs globally.

Methods

- Seven academic databases were searched. No restrictions were imposed on location or language.
- **Eligibility criteria:** RCTs evaluating any internet-based intervention (website, email, social media etc.) with no, minimal (brochure), or active (medication) comparators.
- **Outcomes analysed:** **self-reported continuous abstinence of at least 6 months** or less than 6 months.
- **76 RCTs** included data from over 90,000 participants.

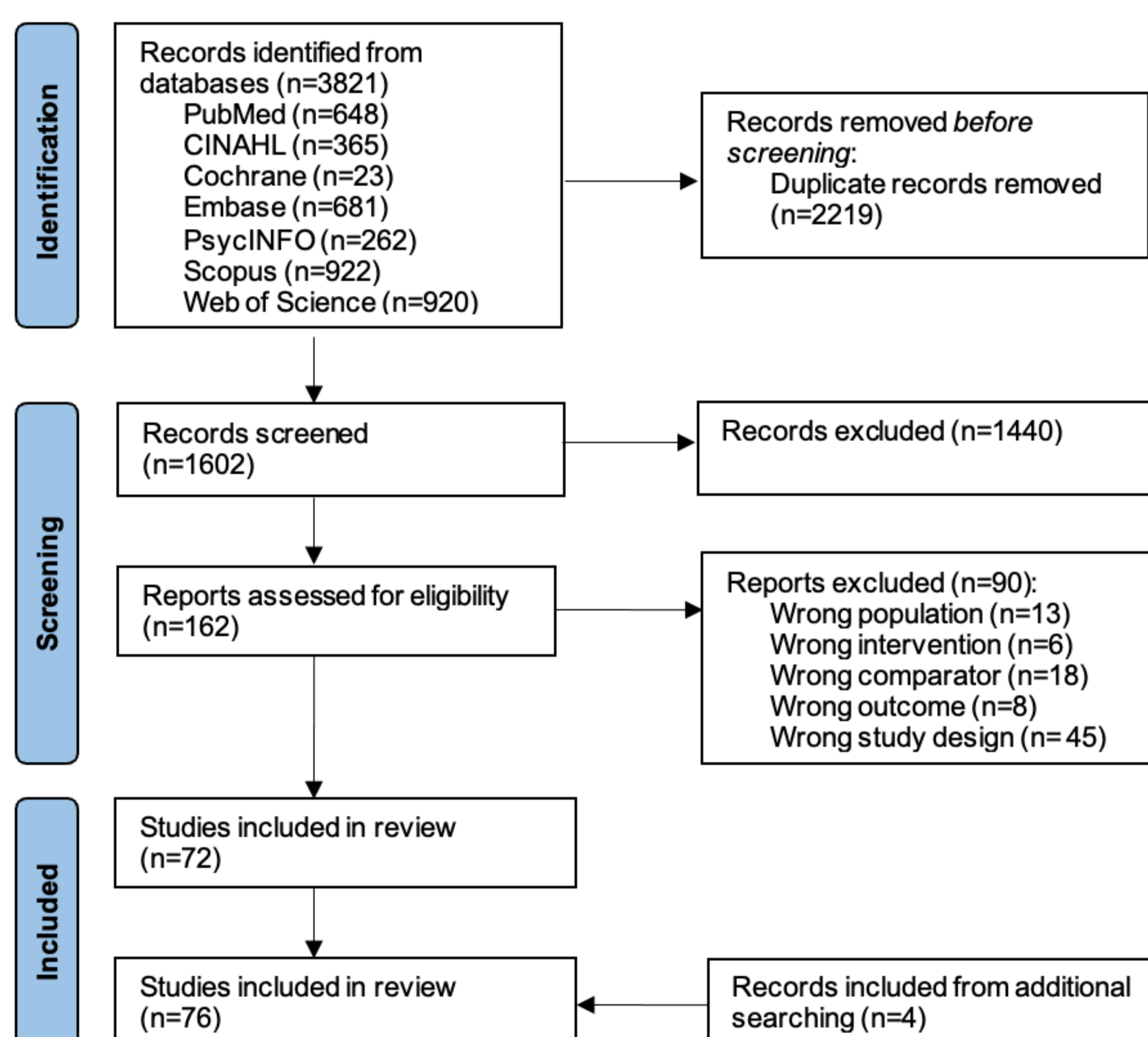


Figure 1: PRISMA flowchart of study selection.

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Results



Seven RCTs reported on the primary outcome, with **abstinence rates** ranging from **4.2% to 15.2%** in internet intervention arms and **2.7% to 19.0%** in control arms.



Internet interventions resulted in an **11% increase** in likelihood of abstinence compared to no/minimal intervention (RR 1.11, 95% CI 0.90-1.36, $p = 0.3329$).

However, this was **not** statistically significant. There was **substantial heterogeneity** ($Q = 14.8$) in internet interventions, comparators and populations.

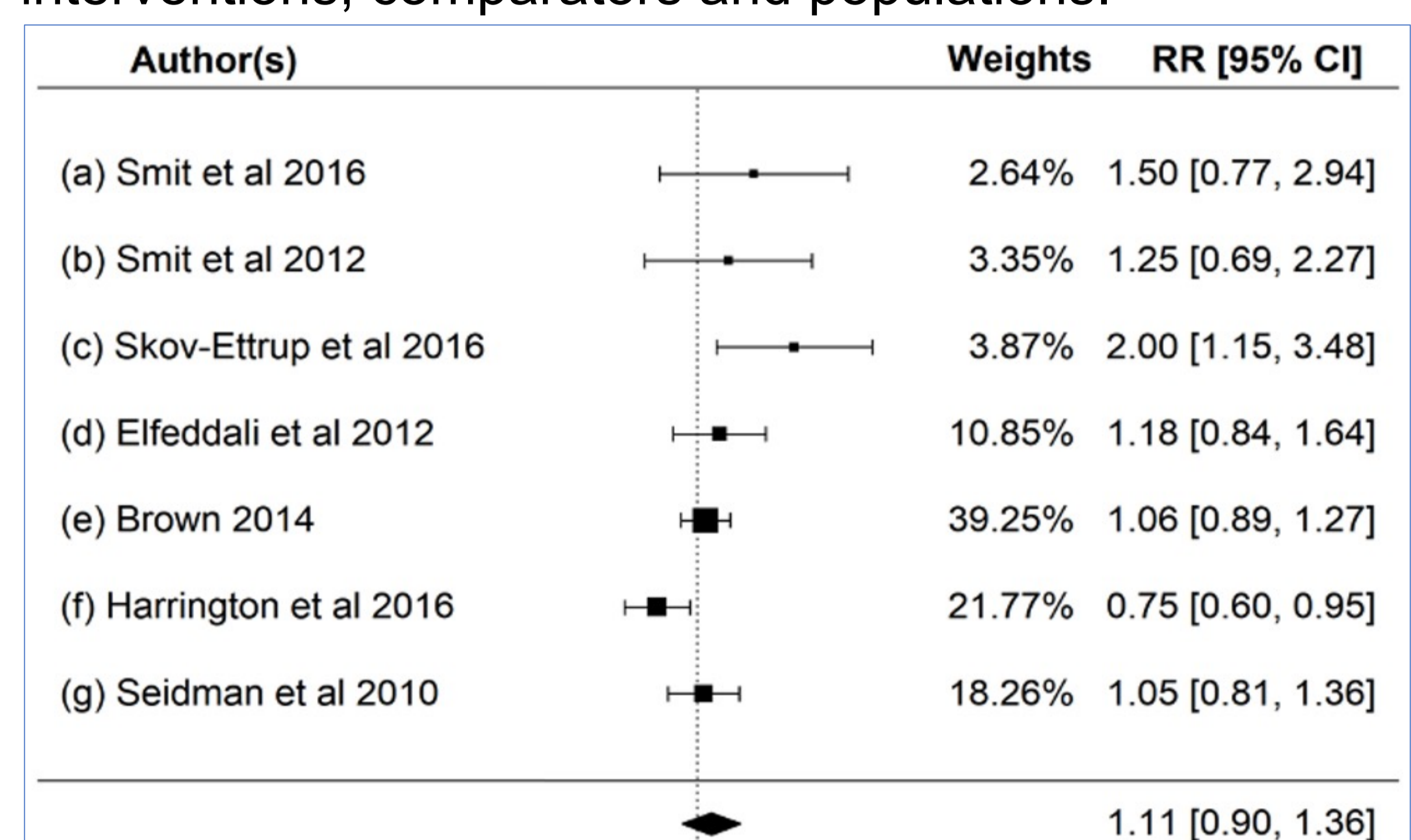


Figure 2: Forest plot of seven RCTs examined.



69 RCTs examined additional outcomes. Most studies ($n = 61$) had a **moderate to high** risk of bias. Overall quality of evidence was **low** according to GRADE.

Conclusion

- Internet programs **vary significantly** in characteristics (content, delivery, engagement).
- Limited evidence suggests internet programs are **not** consistently effective for prolonged abstinence.
- A thorough evaluation of programs' design and implementation is requisite to inform standardised internet interventions that can support long-term abstinence.



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